

**STRUCTURE AND METHOD FOR FABRICATING CONFIGURABLE  
TRANSISTOR DEVICES UTILIZING THE FORMATION OF A COMPLIANT  
SUBSTRATE FOR MATERIALS USED TO FORM THE SAME**

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**ABSTRACT**

A semiconductor structure includes a monocrystalline silicon substrate, an amorphous oxide material overlying the monocrystalline silicon substrate, a monocrystalline perovskite oxide material overlying the amorphous oxide material, and 10 a monocrystalline compound semiconductor material overlying the monocrystalline perovskite oxide material. A composite transistor includes a first transistor having first active regions formed in the monocrystalline silicon substrate, a second transistor having second active regions formed in the monocrystalline compound semiconductor material, and a mode control terminal for controlling the first transistor and the second 15 transistor.

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